IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application: Capece, Christopher J.

Serial No.:   10/686,451

Filed: 10/15/2003

Group Art Unit: 2617

Examiner: Lam, Dung Le

For: NEURAL NETWORK-BASED EXTENSION OF
                       GLOBAL POSITION TIMING

PRE-APPEAL BRIEF REQUEST FOR REVIEW

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

Applicants respectfully request Pre-Appeal Brief Review because there is no *prima facie* case of obviousness. The rejections contained in the office action reopening prosecution are substantively no different than those that were withdrawn in response to Applicant's most recent appeal brief. Prosecution has been reopened several times in this case when, instead, the claims should have been allowed.

The *Jin* Reference Cannot be Modified as Proposed.

The Examiner now proposes to add the *Ojaniemi* reference in the middle of the previously proposed (and subsequently withdrawn) combination of the *Jin* and *Martin* references. The proposed combination cannot be made and the rejection must be withdrawn.

The *Jin* reference discloses an arrangement in which one base station (BTS) includes a global positioning system (GPS) device and the one BTS distributes the GPS timing information

1

over an Ethernet connection among several BTSs connected to the one that has the GPS device.

For example, paragraph 0008 on page 1 states, in relevant part:

> A global positioning system (GPS) and holdover stable oscillator (HSO) are installed aboard one of a plurality of base stations. The single GPS and HSO are used to synchronize all the base stations within the network by transmitting a clock signal via the gigabit ethernet media to each base station. The gigabit Ethernet signal is tapped by a clock recovery circuit, present in each base station, and the recovered signal serves as the master clock signal for the base station as well as a reference clock for the transmit and receive section.

If there is no GPS signal available over the Ethernet connection, a clock recovery circuit at each connected BTS takes a data stream off the Ethernet connection and uses transitions of the data stream to "recover" the clock signal from the one BTS that includes the GPS device and a special oscillator to provide the clock signal. This is described, for example, in paragraphs 0037 and 0038 on page 4, which are quoted here.

> [0037] If it is determined that the GPS clock signal is not available, the process proceeds to step 606, which illustrates tapping the gigabit data stream being received into the base station and the signal being sent to a clock recovery circuit. The process continues to step 608, which depicts the clock recovery circuit processing the received signal. The process passes to step 610, which illustrates the recovered signal being sent to the transmit and receive local oscillators of the base station as a master clock signal. Additionally, the clock signal is sent to the base station transmitter section and locked reference clock for the receiver section. The process continues to step 600 to determine if a GPS clock signal is available.
>
> [0038] In the present invention, a base station, utilizing a gigabit ethernet, is synchronized with mobile switching center clock by utilizing the incoming data stream from the network. The system clock is recovered from transitions of the data stream. A follow up PLL circuit cleans up the phase noise caused by data rising or falling edge jitters. The cleaned up clock signal serves as the master clock for the base station as well as the reference clock for the transmitter section and locked reference clock for the receiver section. The VCXO is utilized in the PLL circuit because of its low phase noise and excellent frequency stability.

If one were to make the substitution suggested by the Examiner (e.g., to substitute in *Martin's* predicted values of a "numeric data time flow" based on the initialization synchronizing technique of the *Ojaniemi* reference), in place of the clock signal recovery technique described in

the *Jin* reference, that would completely change the principle of operation of the arrangement in the *Jin* reference. Such a modification cannot be made according to MPEP 2143.01(VI). Replacing the clock signal recovery technique of the *Jin* reference with *Martin's* predicted values of a "numeric data time flow" completely changes the principle of operation in the *Jin* reference and there is no *prima facie* case of obviousness because the Examiner's proposed combination cannot be made.

Another reason why the proposed combination cannot be made is that it would remove an intended feature from the *Jin* reference. As quoted above, an intended feature of the primary reference is to tap the gigabit data stream, provide that to the clock recovery circuit and use the local oscillators of the base station if the GPS clock signal is not available. That feature would be eliminated if the proposed modification to the *Jin* reference were made. The Examiner proposes to eliminate the function of the local oscillators of the base station in the *Jin* reference. The Examiner also proposes to remove the function of the clock recovery circuit by eliminating the tapping of the gigabit data stream. This is a wholesale redesign of the *Jin* reference that eliminates the intended features of that reference. Such a modification is not permissible when attempting to manufacture a *prima facie* case of obviousness.

The *Ojaniemi* Reference Does Not Teach Anything of Benefit.

Another reason why the proposed combination cannot be made is that the *Ojaniemi* reference does not teach anything of benefit for the proposed combination. That reference teaches synchronizing timing signals from a primary source and a secondary oscillator during base station initialization. That does not have anything to do with the technique of the *Jin* reference nor the proposed modification of that reference, which cannot be made anyway (as explained above). Without any benefit from a proposed combination, the legally required reason

3

for making it is missing and there is no *prima facie case* of obviousness. The rejections must be withdrawn.

The *Martin* Reference Does Not Teach Time Information.

Even if it were possible to make the proposed combination, the *Martin* reference does not teach time information of the type that would be of any use in the *Jin* reference. The "numeric data time flow" of the *Martin* reference is not "time" information of the type used for purposes of controlling communications by a wireless communication base station. Instead, that data flow is a "financial data time flow" (column 2, lines 44-45). Whatever the "numeric data time flow" information is in the *Martin* reference, it has no relevance or usefulness in the context of the *Jin* reference. The "time flow" is, at best, the flow of the numeric data over time. That is not the same thing as time in the sense of a time of day or GPS time information. Therefore, even if the proposed combination could somehow be made, the result is not consistent with what the Examiner contends. There is no possible *prima facie* case of obviousness.

The rejection of claims 1, 8 and 14 must be withdrawn.

The rejection of these claims is based on the improper combination of the *Jin, Ojaniemi* and *Martin* references. Given that the combination cannot be made and does not yield a result consistent with Applicant's claims even if it could be made, there is no *prima facie* case of obviousness and the rejection must be withdrawn.

The rejection of claims 4-7,9, 11-13 and 17-20 must be withdrawn.

The rejection of these claims requires adding teachings from the *Telia* reference to the improper combination of the *Jin, Ojaniemi* and *Martin* references. The proposed addition of *Telia's* teachings does not remedy the defects in the proposed base combination and there is no *prima facie* case of obviousness. The rejection must be withdrawn.

Additionally, the Examiner's reliance upon the *Telia* reference is misplaced. The Examiner attributes features to the *Telia* reference that are not there. That reference does not have anything to do with time information. Instead, the *Telia* reference is explicitly concerned with *position* information. There is a neural network mentioned in the *Telia* reference but that is used to provide a desired level of *position* information accuracy. Therefore, the teachings of the *Telia* reference have no relevance to the analysis in this case.

The rejection of claims 2, 3, 10, 15 and 16 must be withdrawn.

The rejection of these claims is based on the proposed addition of the *Bullock* reference but that does not remedy the defects in the proposed base combination. It is not possible to make the base combination and not possible to add the teachings of the *Bullock* reference, either. There is no *prima facie* case of obviousness and the rejection must be withdrawn.

Conclusion

The rejections that are the subject of this request are essentially the same as the rejections that were withdrawn two years ago. The rejections must once again be withdrawn. This case should be allowed without further delay.

Respectfully submitted,

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Dated: November _, 2010